REMARKS

Claims 1-29 and 31-55 are currently pending in this application. Claims 4, 7, 8, 10, 12, 15, 16, 25, 33 and 34 are amended herein. The amendments were made to clarify the claims and to correct typographical errors. Claims 56 and 57 are newly added claims. Support for amended and newly added claims can be found throughout the specification as originally filed, *inter alia*, in paragraph [0023] and original clam 30. No new matter is presented by the amendments and newly added claims. Accordingly, applicants respectfully request entry of the amendments.

Claims 5-28 and 35-36 are withdrawn as drawn to non-elected species. Upon the allowance of generic claims, applicants respectfully request consideration of additional species as provided by 37 C.F.R. §1.141. Claims 37-55 are withdrawn as drawn to a non-elected embodiment. Applicants respectfully request that these claims be rejoined with elected product claims in accordance with MPEP §821.04, should the elected product claims be allowed. Applicants respectfully request reconsideration of pending claims 1-4, 29, 31-34 and 56-57 in light of the following remarks.

Rejections Under 35 U.S.C. § 112, Second Paragraph

On page 5 of the Office Action ("the Action"), claim 4 is rejected under 35 U.S.C. § 112, second paragraph for allegedly being indefinite. In particular, the Action asserts that "[t]he recitation of the parenthetical limitation renders the scope of the claims indefinite." This rejection is moot in light of the amendment to claim 4. A skilled artisan would have recognized that the deleted parenthetical previously listed the common name of the particular alkyl alpha hydroxyacid. Accordingly, applicants respectfully request that the Examiner reconsider and withdraw this rejection.

On pages 5-6 of the Action, claims 33 and 34 are rejected under 35 U.S.C. § 112, second paragraph for allegedly being indefinite. In particular, the Action asserts "that both claims 33 and 34 fail to define the units of the molecular weight of the hydroxyacid." This rejection is moot in light of the amendment to claims 33 and 34. Accordingly, applicants respectfully request that the Examiner reconsider and withdraw this rejection.

Rejections Under 35 U.S.C. § 103

On pages 7-9 of the Action, claims 1-4, 29 and 31-34 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 5,863,544 (Willcox) in view of STN Registry File No. 79-14-1 ("STN 79-14-1"). Applicants respectfully traverse this rejection.

As an initial matter, although these rejections are listed under 35 U.S.C. § 103, the Action essentially alleges that Willcox anticipates the claims by disclosing every claim limitation. The Action only cited STN 79-14-1 as a reference "for its teaching of the molecular formula of glycolic acid, i.e. $C_2H_4O_3$, which is equivalent to a molecular weight of 76 grams/mole and clearly meets Applicant's claimed limitations of present claims 33-34 (i.e., that the hydroxyacid has a molecular weight from about 50-1000 or 70-700)." Since the disclosure of STN 79-14-1 relied upon by the Action does not effect the other claims, the Action essentially alleges Willcox anticipates claims 1-4, 29 and 31-32. Thus, this rejection will be referred to as an alleged anticipation by Willcox as detailed by the Action.

Claim 1 of the present application recites, *inter alia*, "A composition comprising *a molecular complex* formed between: an alkaline pharmaceutical drug; and at least one agent selected from the group consisting of a hydroxyacid, a polyhydroxy acid, a related acid, a lactone form of these acids, and mixtures thereof." (Emphasis added).

With respect to the molecular complex recited in claim 1, the specification states:

> The present inventors have discovered a relatively simple process for converting the inorganic salt of an alkaline pharmaceutical drug into a molecular complex that provides the requisite bioavailability and therapeutic efficacy. In accordance with a preferred embodiment of the method, *an inorganic salt of an alkaline pharmaceutical drug is reacted with equimolar amounts of an inorganic alkali such as sodium hydroxide or ammonium hydroxide to generate the free base of the drug. The free base of the drug then is reacted with an organic hydroxyacid, polyhydroxy acid, related acid, lactone, or combinations thereof, to form a molecular complex.*
>
> *The expression "molecular complex" as used throughout this description to define the formation of a molecular complex between an alkaline pharmaceutical drug and the hydroxyacid, or polyhydroxy acid, related acid, or lactone denotes a complex based on three attracting forces.* These three attracting forces in increasing strength are: (a) dipolar/dipolar; (b) dipolar/ionic; and (c) ionic /ionic. The dipolar attracting forces are created between the hydroxyl groups of: (i) the hydroxyacid or polyhydroxy acid or

> related acid, or lactone; and (ii) the amino, imino and/or guanido group of an alkaline drug due to unshared electrons of the oxygen and nitrogen atoms, and the hydrogen atoms through hydrogen bonds. The ionic attracting forces are created between the carboxyl group of the hydroxyacid or polyhydroxy acid, or related acid, or lactone on the one hand, and the protonated amino, imino or guanido group of an alkaline drug on the other hand.

See, Specification, paragraphs [0023] and [0024]. (Emphasis added).

The Action correctly recognizes that Willcox does not expressly disclose the molecular complex as recited in claim 1, or any molecular complex. The Action alleges, however, "[r]egarding the formation of the claimed molecular complex (see, e.g., claim 1), whatever complex that is formed between two such agents when combined must necessarily be present in the prior art product of Willcox et al., absent factual evidence to the contrary, because the disclosed product of Willcox et al. meets each and every physical limitation of the instantly claimed product." Applicants respectfully disagree with the characterization that the disclosed product of Willcox inherently forms a molecular complex.

Anticipation by inherency requires that the prior art reference disclose each and every limitation of the claim.[1] A prior art reference may anticipate when the claim limitation or limitations not expressly found in that reference are nonetheless inherent in it.[2] Furthermore, inherency is not necessarily coterminous with the knowledge of persons of ordinary skill in the art.[3] That is, the discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer.[4]

In order for a prior art reference to anticipate a claim under the principles of inherency, however, the prior art reference must ***necessarily*** function in accordance with, or include, all

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[1] *See Standard Havens Prods., v Gencor Indus., Inc.*, 953 F.2d 1360, 1369 (Fed. Cir. 1991).

[2] *See id.*; *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 630 (Fed. Cir. 1987).

[3] *See Titanium Metals Corp. v. Am. v. Banner*, 778 F.2d 775, 780 (Fed. Cir. 1985).

[4] See *In re Crish*, 393 F.3d 1253, 2004 U.S. App. LEXIS 26518, 14-15 (Fed. Cir. 2004) (citing *In re Spada*, 911 F.2d 705 (Fed. Cir. 1990), *Titanium Metals Corp. of Am. v. Banner*, 778 F.2d 775 (Fed. Cir. 1985), *In re Pearson*, 494 F.2d 1399 (CCPA 1974), and *In re Benner*, 174 F.2d 938 (CCPA 1949) for the proposition that "one cannot establish novelty by claiming a known material by its properties.").

claimed limitations in order to anticipate the claim.[5] A conclusion that a result or characteristic ***may be present in the prior art reference is insufficient***, as provided by M.P.E.P. § 2112 as follows:

> The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' " *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). (emphasis in original).

Additionally, as stated in *Glaverbel Societe Anonyme v. Northlake Marketing & Supply Inc.*, (Fed. Cir. 1995):

> Anticipation, however, requires identity of invention; the claimed invention, as described in appropriately construed claims, ***must be the same as that of reference***, in order to anticipate. Continental Can Co. USA, Inc. v. Monsanto Co., 948 F.2d 1264, 1267, 20 USPQ2d 1746, 1748 (Fed. Cir. 1991). See also In re Spada, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990) ('the reference must describe the applicant's claimed invention sufficiently to have placed a person of ordinary skill in the field of the invention in possession of it'). (33 USPQ2d at 1498)(emphasis added).

Applicants respectfully submit that Willcox fails to inherently disclose a molecular complex that ***necessarily*** forms between an alkaline pharmaceutical drug and at least one agent selected from the group consisting of a hydroxyacid, a polyhydroxy acid, a related acid, a lactone form of these acids, and mixtures thereof, and Willcox thus fails to inherently disclose a composition comprising the molecular complex. While Willcox may disclose a drug and a hydroxyacid, that disclosure is insufficient to anticipate the present claims. Specifically, the conditions present in Willcox's composition would ***not necessarily*** result in the formation of a molecular complex. Indeed, a skilled artisan, upon reading applicants' disclosure, would not believe that a molecular complex would form in Willcox's system.

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[5] *See In re King*, 801 F.2d 1324, 1326 (Fed. Cir. 1986).

The specification of the present application, describes how the inventors discovered a molecular complex and a process for making a molecular complex between an alkaline pharmaceutical drug and a hydroxyacid, a polyhydroxy acid, a related acid, a lactone form of these acids, and mixtures thereof. In one embodiment, to form the molecular complex, an inorganic salt of an alkaline pharmaceutical drug is reacted with equimolar amounts of an inorganic alkali such as sodium hydroxide or ammonium hydroxide to generate the free base of the drug. Then the free base of the drug is reacted with an organic hydroxyacid, polyhydroxy acid, related acid, lactone, or combinations thereof, to form the molecular complex.

In contrast, Willcox discloses a composition comprising a water-in-oil emulsion containing hydroxyl acids, silicone bearing polyoxyalkylene substituents, coemulsifying compounds, and optionally an active agent (e.g. pharmaceutical drug). However, the composition disclosed by Willcox does ***not necessarily*** form a molecular complex. Willcox does not disclose preparing or using a free base of a pharmaceutical drug in the disclosed compound which can be one of the requirements needed to form the molecular complex. Instead, Willcox discloses a water-in-oil emulsion formed according to the following process:

> The composition according to the invention may be formulated via any technique per se known in this art. Thus, the emulsifying agent or the emulsifying mixture may be dissolved or dispersed in the fatty phase. Water is added next, preferably slowly. Stirring may be carried out by any known means. It is preferable to stir such as to form a preemulsion. The other compounds of the emulsion may be simply added beforehand to the phase in which they are soluble or dispersible. The emulsion may be stabilized using a stirring system of the rotor-stator type, preferably at high speed.

See column 5, lines 55-64.

The process disclosed by Willcox requires the use of emulsifying agents such as silicone bearing polyoxyalkylene substituents to form a stable compound. The process disclosed by Willcox is not concerned with forming a complex between the pharmaceutical drug and the hydroxyl acid. Instead, Willcox is concerned with forming a stable emulsion of hydroxyl acid with the option of adding an active agent such as a pharmaceutical drug. However, the process disclosed by Willcox will not necessarily form the molecular complex as disclosed by the present application which may require the use of a free base of the drug reacted with an organic

hydroxyacid, polyhydroxy acid, related acid, lactone, or combinations thereof, to form the molecular complex.

Because Willcox fails to inherently disclose a molecular complex that ***necessarily*** forms between an alkaline pharmaceutical drug and at least one agent selected from the group consisting of a hydroxyacid, a polyhydroxy acid, a related acid, a lactone form of these acids, and mixtures thereof, Willcox also fails to inherently disclose a composition comprising the molecular complex. Willcox therefore fails to anticipate claims 1-4, 29 and 31-32 under the principals of inherency. For at least these reasons, claims 33-34 also are not unpatentable over Willcox in view of STN 79-14-1. Accordingly, applicant respectfully requests that the Examiner reconsider and withdraw this rejection.

Rejections Under Double Patenting

On pages 9-12 of the Action, claims 1-4, 29 and 31-34 are rejected on the grounds of nonstatutory obviousness-type double patenting as allegedly being unpatentable over, alternatively, claims 28, 35-37 and 41 of U.S. Patent No. 5,665,776 ("Yu '776"), or claims 1, 3, 5 and 9 of U.S. Patent No. 5,702,688 ("Yu '688"), or claims 1-4, 38-41 and 51-52 of U.S. Patent No. 5,877,212 ("Yu '212"), each in view of Cole *et al.* ("A Comparison of a New Oral Antifungal, Terbinafine, with Griseofulvin as Therapy for Tinea Corporis", *Arch Dermatol*, 1989 Nov; 125(11):1537-1539; Abstract Only) ("Cole"). Applicants respectfully traverse this rejection.

The Action alleges:

> Furthermore, though the instant claims recite the formation of a molecular complex between the terbinafine active agent and the glycolic acid component (see, e.g., claim 1), the fact that the patented claims clearly provide for compositions in which both the active dermatologic compound and the glycolic acid component are directly combined with one another is obvious evidence that the molecular complex formed between two such agents when combined must necessarily be present in each of the patented products, absent factual evidence to the contrary, since products of identical chemical composition cannot have mutually exclusive properties.

See, Office Action, page 10, last paragraph – page 11.

For the same reasons detailed above regarding inherency in the Willcox reference, Yu '776, Yu '688, and Yu '212 do not claim a molecular complex that ***necessarily*** forms between an alkaline pharmaceutical drug and at least one agent selected from the group consisting of a hydroxyacid, a polyhydroxy acid, a related acid, a lactone form of these acids, and mixtures thereof. In order for the molecular complex to form, a reaction between the free base of a pharmaceutical drug and an organic hydroxyacid, polyhydroxy acid, related acid, lactone, or combinations must occur. It is not enough to merely have the two components (alpha hydroxyacid and drug) in the same composition or mixture for a molecular complex to form between the two. In contrast to the composition claimed by the present application, none of the compounds recited in the claims of Yu '776, Yu '688, and Yu '212 disclose a molecular complex. As discussed above with respect to the Willcox reference, the presence of each component in the composition of the claims of Yu '776, Yu '688, and Yu '212 would ***not necessarily*** form the molecular complex recited in the present claims since Yu '776, Yu '688, and Yu '212 do not claim a molecular complex formed between a pharmaceutical drug and an organic hydroxyacid, polyhydroxy acid, related acid, lactone, or combinations. Thus, the claims of Yu '776, Yu '688, and Yu '212 do not render the present claims unpatentable. Accordingly, applicants respectfully request that the Examiner reconsider and withdraw this rejection.

On pages 12-13 of the Action, claims 1-4, 29, 31 and 33 are provisionally rejected on the grounds of nonstatutory obviousness-type double patenting as allegedly being unpatentable over claims 1-4 and 29-31 of U.S. Patent Application No. 11/050,434 ("the '434 application") in view of Davis *et al.* ("Terbinafine. A Pharmacoeconomic Evaluation of Its Use in Superficial Fungal Infections", *Pharmacoeconomics*, 1995 Sep; 8(3):253-269; Abstract Only) ("Davis").

Applicants would like to note that this is a provisional double patenting rejection, for which the M.P.E.P. at § 1504.06 Double Patenting provides as follows:

> If a provisional double patenting rejection (of any type) is the only rejection remaining in two conflicting applications, the examiner should withdraw that rejection in one of the applications (e.g., the application with the earlier filing date) and permit the application to issue as a patent. The examiner should maintain the provisional double patenting rejection in the other application which rejection will be converted into a double patenting rejection when the first application issues as a patent. If more than two applications conflict with each other and one is allowed, the remaining applications

> should be cross rejected against the others as well as the allowed application. For this type of rejection to be appropriate, there must be either at least one inventor in common, or a common assignee. If the claims in copending design applications or a design patent and design applications have a common assignee but different inventive entities, rejections under 35 U.S.C. 102(e), (f) and (g)/103(a) must be considered in addition to the double patenting rejection. See MPEP Section 804, Section 2136, Section 2137 and Section 2138.

Since this is a provisional rejection and applicants submit that all claims are in condition for allowance, applicants respectfully request withdrawal of this rejection.

CONCLUSION

In view of the foregoing, applicants respectfully submit that the present claims are in condition for allowance. An early notice to this effect is earnestly solicited. Should there be any questions concerning the foregoing, or should the Examiner believe that a telephonic interview would serve to further advance prosecution of the claims, the Examiner is courteously invited to contact the undersigned at the telephone number listed below.

No additional fee is believed to be required for entry and consideration of this response. Nevertheless, in the event that the U.S. Patent and Trademark Office requires any additional fee to enter this response or to maintain the instant application pending, please charge such fee to the undersigned's Deposit Account No. 07-1700.

Respectfully submitted,

Dated: 08/14/07

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